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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#13/Ream

12/26/02

In re Applicant:

AUGUST H. BECK, III

Filed: June 18, 1999

Serial No.: 09/336,204

Title: PILOTED DRILL BARREL AND
METHOD OF USING SAME

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Art Unit: 3671

Examiner: Nathan S. Mammen

Docket No.: 063007.0010

RESPONSE C TO OFFICE ACTION

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GROUP 3600

Art Unit 3671
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is a response to the Office Action mailed September 18, 2002. Claims 1 – 41 are pending in the application. Claims 23 and 25 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,013,319 (Wise). Claims 1 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,387,673 (Thompson) in view of U.S. Patent No. 5,174,390 (Kurt). Claims 12 – 22 and 34 – 41 were indicated as being allowable. Claims 2 – 11, 24 and 27 – 33 were objected to as being dependent on a rejected base claim.

Applicant respectfully traverses the 102(b) rejection of claims 23 and 25 based on the Wise patent.¹ To begin with, Wise does not even disclose a drill barrel. Elements 30 and 106a of Wise are “arcuate webs” that do not form a closed barrel. See Column 4, line 52. The arc-shaped webs do not meet to form a barrel. This is evident from Figures 2, 3 and 4 of Wise, as

¹ In paragraph 2 of the Office Action, the examiner states that “claims 23 and 26” are rejected on Wise. This is believed to be a typographical error in that claim 25 is the dependent claim whose limitation is addressed in the examiner’s application of the reference. Claim 26 is drawn to a method of using a piloted drill barrel, and the

well as Figure 7 (an alternative embodiment in which the arcuate webs are designated 106a and 106b). One cannot collect cuttings with these non-closed arcuate webs, and indeed, Wise is not concerned with collecting cuttings because the Wise apparatus is for horizontal drilling only.

Wise also does not disclose a barrel that is open at its proximal end. To the contrary, Wise's arcuate webs 30 are topped by a "disc assembly" 24, which pushes the hammer drills 22a and 22b forward under urging from hydraulic thrust cylinders 72. See column 6, lines 20 – 28 and Figure 1. Figure 4 of Wise more particularly shows the disc assembly 24 as a plate sealing the proximal end of the cutting device. Therefore, not only does Wise not disclose a drill barrel, he also does not disclose any drill barrel that is open at its proximal end. This should not be surprising, since the massive horizontal tunneling device of Wise is not concerned with collecting cuttings. It is submitted that the rejection based on Wise should be withdrawn.

The rejection of claims 1 and 26 as being unpatentable over Thompson in view of Kurt is also respectfully traversed. The examiner asserts that Thompson discloses a drill with a pilot portion (2). However, neither Thompson nor Kurt disclose a "pilot portion" as that term is used in Applicant's specification and claims. Both Thompson and Kurt disclose conventional "gang drills" or "cluster drills" that has a central hammer that cuts the center of the shaft at the same time that the peripheral hammers drill the periphery of the shaft. In contrast, Applicant's invention has a true pilot 6 (Figure 1), which is inserted into a pre-drilled pilot shaft that is smaller than the foundation shaft to be drilled by the core barrel. The pilot portion on Applicant's invention may pick cuttings from the bottom of the pre-drilled pilot shaft, but it does not cut the face of the pilot shaft. "Pilot portion" in claims 1 and 26 must be interpreted

examiner does not assert that Wise discloses a pilot portion.

consistently with the specification that describes this feature of Applicant's invention; it is clearly not a centrally disposed hammer drill like the one shown in the gang drill of Thompson.

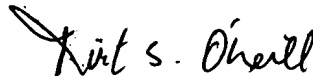
Applicant wishes to point out that the examiner previously made essentially the same rejection of claim 1 based upon a gang drill or cluster drill disclosed in Kelly, Jr. (U.S. Patent No. 3,682,258) in the first Office Action, mailed October 3, 2000. Applicant pointed out in response that such gang drills do not have a "pilot portion" as claimed by Applicant (see Response filed July 26, 2001), and Applicant's arguments were accepted by the examiner. It is not clear whether and for what reason the examiner is changing positions now. But in any event, it is respectfully submitted that gang drills having a central hammer that cuts the center of the shaft simultaneously with peripheral hammers do not disclose a pilot portion as described and claimed by Applicant.

To clarify, Applicant's invention is particularly useful in the deep foundation industry in which relatively large diameter shafts are drilled to depths of 50 feet, 75 feet or more. In such applications, a relatively small diameter pilot shaft can be pre-drilled with the requisite straightness. Applicant's pilot portion then guides the peripheral hammers by descending into, but not cutting the face of, the pilot shaft. This results in a very deep and very straight shaft. The "gang drills" or "cluster drills" (such as those disclosed in Thompson, Kurt, and Kelly, Jr.) merely employ a center hammer that cuts the face of the shaft on its central axis at the same time as the peripheral hammers are cutting the collar. Such cluster drills may "wander" due to the central hammer bit not being constrained to descend in a pre-drilled pilot shaft. This is one of the reasons why Applicant's invention is so different from conventional gang drills or cluster drills, none of which have a true pilot, but rather only a central bit that protrudes slightly from the peripheral bits.

In summary, claims 1 and 26 cannot be obvious because neither Thompson nor Kurt discloses or suggests a "pilot portion" as disclosed and claimed by Applicant. Accordingly, it is requested that the rejection of claims 1 and 26 be withdrawn.

In view of the foregoing, all claims 1 – 41 are believed to be allowable. An early allowance is respectfully requested.

Respectfully submitted,



Kirt S. O'Neill, Reg. No. 38,257

Date: December 9, 2002.

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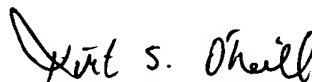
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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on December 9, 2002.



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